

AMENDMENTS TO THE CLAIMS

1. (Canceled)
2. (Currently Amended) The thread selection unit of claim ~~[[1]]~~ 13, wherein the execution thread selector is configured to select the priority thread as the execution thread when the priority thread is unblocked.
3. (Currently Amended) The thread selection unit of claim ~~[[1]]~~ 13, wherein the priority thread selector selects the priority thread without regards to the actions of the execution thread selector.
- 4.-11. (Canceled)
12. (Currently Amended) The thread selection unit of claim ~~[[11]]~~ 13, wherein the internal thread counter is incremented and the counter is reset when the count value equals the maxtime value.
13. (Currently Amended) ~~A~~ [[The]] thread selection unit of claim 11 for a multithreaded processor, the thread selection unit comprising:
 - a priority thread selector configured to generate a priority thread value associated with a priority thread selected from a plurality of active threads in the multithreaded microprocessor; the priority thread selector comprising:
 - a plurality of maxtime registers, wherein each active thread has an associated maxtime register;
 - an internal thread counter configured to provide an internal thread value to the maxtime registers and receive a maxtime value corresponding to the internal thread value;
 - a counter; and
 - a comparator coupled to the counter, the internal thread counter and the plurality of maxtime registers, wherein the comparator is configured to compare a count value of the counter with the maxtime value; and

an execution thread selector coupled to receive the priority thread value and to generate an execution thread value associated with an execution thread,

wherein the priority internal thread counter is incremented and the counter is reset when the maxtime value equals zero.

[[13]] 14. (Currently Amended) The thread selection unit of claim 12, wherein the priority thread selector further comprises a priority thread register coupled to the comparator and configured to receive the internal thread value and [[the]] then provide the priority thread value, wherein the priority thread registers stores the internal thread value when the maxtime value is not equal to zero.

[[14]] 15. (Currently Amended) A [[The]] thread selection unit ~~of claim 1~~ for a multithreaded processor, the thread selection unit comprising:

a priority thread selector configured to generate a priority thread value associated with a priority thread selected from a plurality of active threads in the multithreaded microprocessor; and

an execution thread selector coupled to receive the priority thread value and to generate an execution thread value associated with an execution thread, wherein the execution thread selector comprises:

a thread block checker configured to provide a plurality of block values, wherein each active thread has a corresponding block value;

an execution thread register configured to provide the execution thread value; and

a comparator configured to compare the priority thread value with the execution thread value and to generate a comparison result.

[[15]] 16. (Currently Amended) The thread selection unit of claim [[1]] 15, wherein the execution thread selector further comprises a controller coupled to receive the block values, the priority thread value, the comparison result, and the execution thread value and configured to generate a next execution thread value for the execution thread register.

[[16]] 17. (Currently Amended) The thread selection unit of claim [[15]] 16, wherein the controller generates the next execution thread value to be equal to the priority thread value when the priority thread is not blocked.

[[17]] 18. (Currently Amended) The thread selection unit of claim [[16]] 17, wherein the controller generates the next execution thread value to not be equal to the priority thread value when the priority thread is blocked.

(Original 18) 19. (Canceled)

[[19]] 20. The method of claim [[18]] 23 further comprising selecting a non-priority thread as the execution thread when the priority thread is blocked.

(Original 20) 21. (Canceled)

[[21]] 22. (Currently Amended) The method of claim [[20]] 23, wherein the selecting a next thread as the priority thread when the priority thread has been the priority thread for a maxtime number of cycles comprises:

incrementing a priority thread counter when a count value equals the maxtime value corresponding to the priority thread; and

resetting a counter when the count value equals the maxtime value corresponding to the priority thread.

[[22]] 23. (Currently Amended) A [[The]] method of claim 20 selecting an execution thread in a multithreaded processor, the method comprising:

selecting a priority thread from a plurality of active threads in the multithreaded microprocessor, wherein the selecting a priority thread comprises:

assigning a maxtime value for each active thread; and

selecting a next thread as the priority thread when the priority thread has been the priority thread for a maxtime number of cycles, wherein the selecting a next thread as the priority thread when the priority thread has been the priority thread for a maxtime number of cycles comprises:

incrementing an internal thread counter when a count value equals the maxtime value corresponding to a internal thread value;

resetting a counter when the count value equals the maxtime value corresponding to the priority thread; and

setting a priority thread value equal to the internal thread value when the maxtime value corresponding to the internal thread value is not equal to zero[.]; and

selecting the priority thread as the execution thread, when the priority thread is unblocked.

(Original 23) 24. (Canceled)

[[24]] 25. The thread selection unit of claim [[23]] 28 further comprising means for selecting a non-priority thread as the execution thread when the priority thread is blocked.

(Original 25) 26. (Canceled)

[[26]] 27. (Currently Amended) The thread selection unit of claim [[25]] 28, wherein the means for selecting a next thread as the priority thread when the priority thread has been the priority thread for a maxtime number of cycles comprises:

means for incrementing a priority thread counter when a count value equals the maxtime value corresponding to the priority thread; and

means for resetting a counter when the count value equals the maxtime value corresponding to the priority thread.

[[27]] 28. (Currently Amended) ~~The thread selection unit of claim 25~~ A thread selection unit for selecting an execution thread in a multithreaded processor, the thread selection unit comprising:

means for selecting a priority thread from a plurality of active threads in the multithreaded microprocessor, wherein the means for selecting a priority thread comprises:

means for assigning a maxtime value for each active thread; and

means for selecting a next thread as the priority thread when the priority thread has been the priority thread for a maxtime number of cycles, wherein the means for selecting a next thread as the priority thread when the priority thread has been the priority thread for a maxtime number of cycles comprises:

means for incrementing an internal thread counter when a count value equals the maxtime value corresponding to a internal thread value;

means for resetting a counter when the count value equals the maxtime value corresponding to the priority thread; and

means for setting a priority thread value equal to the internal thread value when the maxtime value corresponding to the internal thread value is not equal to zero[.];

and

means for selecting the priority thread as the execution thread, when the priority thread is unblocked.